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Can information be locked up? Informed trading ahead of macro-news announcements☆

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ABSTRACT

Government agencies routinely allow pre-release access to information to accredited news agencies under embargo agreements. Using high-frequency data, we find evidence consistent with informed trading during embargoes of Federal Open Market Committee (FOMC) scheduled announcements. The E-mini Standard & Poor's 500 futures' abnormal order imbalances are in the direction of subsequent policy surprises and contain information that predicts the market reaction to the policy announcements. The estimated informed trades' profits are arguably large. Notably, we find no evidence of informed trading prior to the start of FOMC news embargoes or during lockups ahead of nonfarm payroll, US Producer Price Index, and gross domestic product data releases.

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1. Introduction

Does granting selected parties early access to value-relevant information pose the risk of giving some investors an unfair advantage? Financial economists and regulators have long debated this issue in the corporate context. For instance, firms' practice of providing some professionals with early access to earnings news was questioned and ultimately banned under Regulation Fair Disclosure

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(Reg FD).[1] Similarly, equity analysts' practice of tipping large clients ahead of recommendation changes led to private litigation and internal guidelines of major brokerage firms forbidding such action.[2] We examine similar questions that have recently emerged surrounding the release of macro-news.

Macro-news have economy-wide implications that affect asset prices across several markets.[3] Attesting to the importance of macro-news, US government agencies typically provide accredited news outlets with pre-release access to the information under embargo agreements. The accredited journalists receive the data prior to the public release (often in press lockup facilities) to allow time for clarifying questions and preparing reports, but they cannot disclose the information until the scheduled release. However, recent investigations raise concerns about these practices and highlight the potential for information leakage that would give some traders an unfair, if not illegal, advantage, akin to trading on corporate insider information.[4]

In this paper, we examine for the first time the potential informed trading during macro-news embargo periods. Given the importance of macro-news and the widespread use of news embargoes, understanding the consequences of these practices is important to ensure market integrity. We use high-frequency data to investigate whether there is informed trading during lockup periods ahead of macro-news releases previously shown to have the largest impact on market prices. These include scheduled announcements of the federal funds target rate by the Federal Open Market Committee (FOMC), the releases of nonfarm payroll and US Producer Price Index (PPI) data by the Department of Labor (DOL), and gross domestic product (GDP) growth data by the Bureau of Economic Analysis (BEA) between September 1997 and June 2013.

Consistent with some traders exhibiting an informational advantage, we find robust evidence of informed trading activities across several markets during news embargoes ahead of scheduled monetary policy announcements by the FOMC. We show significant abnormal order imbalances that are in the direction of the subsequent policy surprises. Moreover, we find that the information contained in lockup-related trading activity about subsequent policy surprises predicts the market reaction to the actual release of FOMC statements. The economic magnitude of our results is significant. Back-of-the-envelope calculations suggest that the aggregate dollar profits of lockup-related informed trades ahead of FOMC surprise announcements (i.e., scheduled announcements whose information content deviates significantly from expectations) range between \$4.5 million and \$210.5 million across all the markets that we examine.

Notably, we find no evidence of informed trading prior to FOMC news embargoes. Moreover, we find no evidence of informed trading ahead of surprise announcements by other government agencies, although their post-release informational value is comparable to the FOMC announcements. This evidence jointly suggests the existence of a systematic link between informed trading activities and the FOMC embargo practices.

Our tests rest on the tenet that, to capitalize on pre-release access to macro-news, an investor would want to trade an instrument that has high systematic, but low idiosyncratic, risk exposure. Moreover, the instrument needs to be available for trading prior to the macro-news release time and to have sufficient liquidity to minimize trading costs and price impact. The E-mini Standard & Poor's (S&P) 500 futures (ES) meet these criteria across all the announcements that we study. Hence, we use it as our main testing security. In supplemental tests, we also examine the E-mini Nasdaq 100 futures (NQ), the SPDR S&P 500 ETF (exchange-traded fund; SPY), the PowerShares QQQ ETF tracking the Nasdaq 100 index, the US Treasury futures, and the gold futures. We mainly focus on the ES market, however, because other futures contracts are significantly less liquid and ETFs can be traded only prior to FOMC announcements.

In a semi-strong efficient market (Fama, 1970), an investor can profit on pre-disclosure private information, if the private signal implies a valuation different from market expectations. The larger this difference, the more likely it is that a privately informed investor would trade and profit. Therefore, it is critical for our purposes to measure pre-release market expectations to identify the information content of macro-news announcements. For the federal funds target rate, we measure market expectations using the implied interest rate from federal funds futures traded at the Chicago Mercantile Exchange (CME) similar to Kuttner (2001) and Bernanke and Kuttner (2005). For nonfarm payroll, PPI, and GDP announcements, there are no traded instruments from which to infer market expectations. Thus, we rely instead on economists' forecasts from the Blue Chip Economic Indicators Survey to identify surprise announcements.

We adopt a two-pronged empirical strategy to test the hypothesis that some traders are privately informed ahead of macro-news public announcements. In the first part of our analysis, we test whether the information in macro-news that could be privately available to some traders explains pre-announcement market activities, similar in spirit to existing studies on equity analysts' tipping (e.g., Christophe, Ferri, and Hsieh, 2010; Irvine, Lipson, and Puckett, 2007). Like in those studies, we identify informed trading by the order imbalances of the testing security, defined

[1] See, e.g., Business Week (2000), SEC (2000), Wall Street Journal (2000a), Wall Street Journal (2000b), Bushee, Matsumoto, and Miller (2004), and Duarte, Han, Harford, and Young (2008).

[2] See, e.g., Irvine, Lipson, and Puckett (2007), Goldstein, Irvine, Kandel, and Wiener (2009), Christophe, Ferri, and Hsieh (2010), Busse, Green, and Jegadeesh (2012), and Kadan, Michaely, and Moulton (2014).

[3] The evidence shows that the release of macro-news affects prices in equity markets and bond markets (e.g., Andersen, Bollerslev, Diebold, and Vega, 2007; Balduzzi, Elton, and Green, 2001; Bernanke and Kuttner, 2005; Ederington and Lee, 1993; Flannery and Protopapadakis, 2001; French and Roll, 1986; Gurkaynak, Sack, and Swanson, 2005b; Pearce and Roley, 1985; Tetlock, 2010; Vega, 2006; Veronesi, 1999) and foreign exchange markets (e.g., Andersen, Bollerslev, Diebold, and Vega, 2003; Fleming and Remolona, 1999; Pasquariello and Vega, 2007; Urich and Wachtel, 1984).

[4] These concerns have resulted in stricter security protocols at the US Department of Labor whose inspector general recommended discontinuing press lockups. See, e.g., Wall Street Journal (2013a, 2013b, 2013c, 2014). As discussed in the Appendix, potential leakages from the Federal Reserve also received much attention. See, e.g., CNBC (2013) and Bloomberg News (2014).

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